

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-181

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following Cummins Engine Company, Inc. 1997 model diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Compressed Natural Gas or Liquid Natural Gas (CNG or LNG)

<u>Engine Family</u>	<u>Liters</u>	<u>(Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
VCE359D1CAAA (493D)	5.9	359	Charge Air Cooler Turbocharger Powertrain Control Module Heated Oxygen Sensor Oxidation Catalytic Converter

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in grams per brake-horsepower-hour:

<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
1.2	15.5	2.5	0.10

The following are the certification exhaust emission values for this engine family in grams per brake-horsepower-hour:

<u>Engine Family</u>	<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
VCE359D1CAAA (493D)	0.6	5.4	0.9	0.02

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

CUMMINS ENGINE COMPANY, INC.

EXECUTIVE ORDER A-21-181  
(Page 2 of 2)

BE IT FURTHER RESOLVED: That the listed engine models are certified to the optional lower-emission NOx standards pursuant to the California Code of Regulations, Title 13, Section 1956.8(a)(1) and the incorporated "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles", adopted April 8, 1985, as last amended June 29, 1995.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 7<sup>th</sup> day of January 1997.

*Raphael Summerfield*  
for R. B. Summerfield, Chief  
Mobile Source Operations Division

1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL-STANDARD ENGINES

Manufacturer Cummins Engine Company, Inc. Engine Family (493D) VCE359D1CAAA

Displacement: / 5.9 Liters / 359 Cubic Inches

Maximum Rated Power: 195 HP @ 2800 RPM Engine Configuration: I-6

Ignition: Compression\_\_ Compression with Glow Plug\_\_ Spark X

Fuel Type(s): Dedicated\_\_ Flex-Fuel\_\_ Dual-Fuel\_\_ Diesel\_\_ M100\_\_ M85\_\_

CNG X LNG X LPG\_\_ Other (specify)\_\_\_\_\_

Diesel Cert Fuel: 13 CCR 2282\_\_ 40 CFR 86.1313-90\_\_ 40 CFR 86.1313-94\_\_

Primary Intended Service Class: LHD\_\_ MHD X HHD\_\_ Urban Bus\_\_

Exhaust ECS (include.MFI, TC, CAC): Pcm, OC, TC, CAC, HO<sub>2</sub>S

(use abbreviations per SAE J1930 SEP91)

Engine Model (Eng Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm3 / stroke (lbs/hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
B5.9-195G (1683) (2182)	195 @ 2800	(70)	N/A	3922724 3930507	N/A	3927832
B5.9-150G (2161)	150 @ 2500	(57)	N/A	3922724 3930507	N/A	3927832

Date Issued:

Revisions: